DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jim Janniello on April 29, 2011.

Please amend the following claims as follows:

Regarding claim 22 (Currently Amended) A method for receiving data on at least one receive antenna transmitted by a transmitter having a plurality of transmit antennas in a multiple antenna communication system, said method comprising the step of: receiving an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value; and deferring for said indicated duration.

Regarding claim 26 (Currently Amended) A receiver in a multiple antenna communication system having at least one transmitter having a plurality of transmit antennas, comprising: at least one receive antenna for receiving an indication of a

duration to defer until a subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of antennas; and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value; and means for deferring for said indicated duration.

Regarding claim 52 (Currently Amended) A method for transmitting data by a transmitter having a plurality of transmit antennas in a multiple antenna communication system, said method comprising the step of: determining an indication of a duration to defer until a subsequent transmission; and transmitting said indication of said duration to defer until said subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value.

Regarding claim 59 (Currently Amended) A transmitter in a multiple antenna communication system, comprising: N transmit antennas for transmitting at least one training symbol using at least one of said N transmit antennas and transmitting an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas;

and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value.

Reasons For Allowance

2. The following is an examiner's statement of reasons for allowance: Claims 22-24, 26-28, 42-65 (renumbering as 1-30 respectively) are allowed.

3. The present invention is directed to a method and apparatus for transmitting symbols in a multiple antenna wireless communication system, such that the symbols can be interpreted by a lower order receiver (i.e., a receiver having a fewer number of antennas than the transmitter). For example, subcarriers from one or more symbols can be transmitted such that each of the subcarriers is active on only one of the antennas at a given time. Each independent claim uniquely identifies the distinct claimed features.

Regarding claim 22 (Currently Amended) A method for receiving data on at least one receive antenna transmitted by a transmitter having a plurality of transmit antennas in a multiple antenna communication system, said method comprising the step of: receiving an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value; and deferring for said indicated duration.

Regarding claim 26 (Currently Amended) A receiver in a multiple antenna communication system having at least one transmitter having a plurality of transmit antennas, comprising: at least one receive antenna for receiving an indication of a

duration to defer until a subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of antennas; and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value; and means for deferring for said indicated duration.

Regarding claim 52 (Currently Amended) A method for transmitting data by a transmitter having a plurality of transmit antennas in a multiple antenna communication system, said method comprising the step of: determining an indication of a duration to defer until a subsequent transmission; and transmitting said indication of said duration to defer until said subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value.

Regarding claim 59 (Currently Amended) A transmitter in a multiple antenna communication system, comprising: N transmit antennas for transmitting at least one training symbol using at least one of said N transmit antennas and transmitting an indication of a duration to defer until a subsequent transmission, said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas;

and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value.

The closest prior arts fail to teach claimed features: " said indication transmitted such that said indication is capable of being interpreted by a lower order receiver by diagonally loading a SIGNAL field across said plurality of transmit antennas and by transmitting, on each of said plurality of transmit antennas, said SIGNAL field on a distinct set of subcarriers while setting the remaining subcarriers to a null value; and deferring for said indicated duration".

Independent Claims 22, 26, 52 and 59 are allowed since the closest prior arts either singularly or in combination fail to anticipate or render the uniquely distinct claimed features obvious.

Dependent claims 23-24, 27-28, 42-51, 53-58, 60-65 are allowed by virtue of their dependency on claims 22, 26, 52 and 59 respectively.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For references cited, please see Form-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDAL ELPENORD whose telephone number is (571)270-3123. The examiner can normally be reached on Monday through Friday 8:00AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Bin Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Candal Elpenord/
Examiner, Art Unit 2473

April 29, 2011

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2473